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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/678,296	10/03/2000	Toru Koizumi	35.C14851	5740

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EXAMINER

AGGARWAL, YOGESH K

ART UNIT PAPER NUMBER

2622

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/678,296	<b>Applicant(s)</b> KOIZUMI, TORU	
	<b>Examiner</b> Yogesh K. Aggarwal	<b>Art Unit</b> 2622	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 31-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Arguments***

1. Applicant's arguments with respect to claims 31-37 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 31 and 33-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakamura et al. (US Patent # 6,930,722).

[Claim 31]

Nakamura teaches a method of driving a solid image pickup device (figure 2) comprising a photoelectric conversion unit (21), a charge-voltage conversion unit (26) for converting electric charges from the photoelectric conversion unit into voltage signals, a signal amplification means (23) for amplifying the voltage signals generated in the charge-voltage conversion unit, and a charge transfer means (22) for transferring photoelectric charges from the photoelectric conversion unit to the charge-voltage conversion unit (col. 5 lines 45-52).

transferring electric charges generated in the photoelectric conversion unit during one accumulation period to the charge-voltage conversion unit by the charge transfer means [The one accumulation period for transferring charges is defined as (See figure 7) starting from first reset

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i.e. when the shutter opens and the photoelectric device starts accumulating charges until the time mechanical shutter is opened again to start accumulating charges again];

wherein the transferring step comprises a first transferring step (figure 7 shows reading the charges accumulated in the photoelectric device) and a second transferring step (second reading after the reset signal), a first signal is read out on a basis of electric charges transferred by the first transferring step (after the first readout for reading the accumulated charges i.e. pulse  $\phi$  read, a pulse  $\phi$  addr follows in order to transfer the signal charge to the vertical line 28, See col. 5 line 64-col. 6 line 2. Therefore a pulse  $\phi$  addr reads out the charges on a basis of electric charges transferred by the pulse  $\phi$  read), the charge-voltage conversion unit is reset after the first signal is read out (See figure 7 reset pulse follows the reading) and a second signal is read out on a basis of electric charges transferred by the second transferring step after the charge-voltage conversion unit is reset (Similar to the first reading, a second readout pulse  $\phi$  read transfers the dark signals are readout by the  $\phi$  addr pulse, See col. 8 lines 9-20).

[Claim 33]

Nakamura teaches an intermediate readout operation by performing the resetting of the charge-voltage conversion part and reading out output signals amplified by the amplification means to the signal output line (See figure 7 reset pulse follows the reading, col. 5 line 64-col. 6 line 2, See col. 8 lines 9-20, Also See Examiner's notes regarding claim 1).

[Claim 34]

Claim 34 is an apparatus claim corresponding to method claim 31. Therefore it has been analyzed and rejected based on method claim 31.

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[Claim 35]

Nakamura discloses an embedded type photodiode used for photoelectric conversion unit (figure 3, photodiode 31).

[Claims 36 and 37]

Nakamura teaches the solid-state image pickup device of claim 34 and a signal processing circuit for processing output signals from the solid image pickup device (figure 13). Nakamura also teaches an optical system for focusing for focusing a ray of light to the solid-state image pickup device (col. 5 lines 55-57).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US Patent # 6,930,722) in view of Merrill (US Patent # 5,892,541).

[Claim 32]

Nakamura teaches the limitations of claim 31 but fails to teach wherein the output signals readout from the charge-voltage conversion unit obtained by the division and the readout are individually retained and a horizontal scan is carried out after adding the output signals or while adding the output signals. However Merrill teaches wherein the output signals readout from the charge-voltage conversion unit obtained by the division and the readout are individually retained

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(col. 8 lines 51-54) and a horizontal scan is carried out after adding the output signals or while adding the output signals (col. 9 lines 30-36).

Therefore taking the combined teachings of Nakamura and Merrill it would have been obvious to one skilled in the art to have been motivated to have signals readout from the charge-voltage conversion unit obtained by the division and the readout are individually retained and a horizontal scan is carried out after adding the output signals or while adding the output signals in order to increase the dynamic range.

### *Conclusion*

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K. Aggarwal whose telephone number is (571) 272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

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7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)-272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

YKA

June 1, 2006

A handwritten signature in black ink, appearing to read 'David Ometz', with a long horizontal flourish extending to the right.

DAVID OMETZ  
SUPERVISORY PATENT EXAMINER